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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,296	10/19/2001	James Stephenson	054998/0002	2104
31013	7590	04/07/2004	EXAMINER	
KRAMER LEVIN NAFTALIS & FRANKEL LLP INTELLECTUAL PROPERTY DEPARTMENT 919 THIRD AVENUE NEW YORK, NY 10022			YOHA, CONNIE C	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/039,296	STEPHENSON ET AL.
Examiner	Art Unit	
Connie C. Yoha	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 19 October 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-81 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-81 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 19 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

*Connie C. Yoha*

#### Attachments(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 10/02.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. This office acknowledges receipt of the following items from the Applicant:  
Papers submitted under 35 U.S.C. 119(a)-(d) have been placed of record in the file.  
Information Disclosure Statement (IDS) filed on 7/13/98 was considered.
2. Claims 1-20 are presented for examination.

### ***Claim Rejections - 35 USC § 112***

3. Claim 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is vague and not clear, therefore can not be understood by the examiner what is meant on line 8-9 of claim 1 "wherein when said first, second and third remnant magnetic fields are in said the memory cell is in a second orientation"

Claim 2-16 are rejected due to the rejections of the parent claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-16 and 47-65 are rejected under 35 U.S.C. 102(b) as being anticipated by Katti et al, Pat. No. 5289410.

With regard to claim 1 and 47, Katti discloses a memory cell comprising: a magnetic element (fig. 1a, 1) having a first segment, a second segment and a third segment for storing first, second and third remnant magnetic fields in response to a write signal (abstract, line 5-6, 16-18) (also with regard to claim 2-4 and 49-54), wherein each of the first, second and third remnant magnetic fields may have a first direction or a second direction, and wherein when said first, second and third remnant magnetic fields are in said first direction the memory cell is in a first orientation, and wherein when said first, second and third remnant magnetic fields are in said the memory cell is in a second orientation (abstract, line 5-6, 16-18) (col. 4, line 31-46) (also with regard to claim 48); a write line for applying said write signal to said magnetic element (fig. 2, CSI-Write /Data) (col. 5, line 40-59); a sensor for detecting the orientation of the memory cell (col. 2, line 16-21) (col. 4, line 31-46).

With regard to claim 5, Katti discloses wherein the magnetic element and the sensing region are substantially parallel (fig. 1a) (also with regard to claim 55).

With regard to claim 6, Katti discloses wherein said first, second and third magnetic flux fields have components that are substantially normal to the sensing region (col. 4, line 5-25) (also with regard to claim 7-9, 56 and 64-65).

With regard to claim 10, Katti discloses wherein the sensor is made of a material that is compliant with a CMOS process (col. 4, line 63-64) (also with regard to claim 57).

With regard to claim 11, Katti discloses wherein the sensor is made of an n-type region positioned in said substrate (col. 6, line 35-col. 7, line 6) (also with regard to claim 12-15, and 58-62).

With regard to claim 16, Katti discloses wherein the sensor has a current application line and a voltage measurement line and wherein the sensing region is defined by an intersection of said current application line and said voltage measurement line (col. 4, line 63-col. 5, line 59) (also with regard to claim 63).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 17-46 and 66-81 are rejected under 35 U.S.C. 102(b) as being anticipated by Lienau, Pat. No. 5295097.

With regard to claim 17 and 66, Lienau discloses a memory cell comprising: a non-linear magnetic element (fig. 1, 20); and a write line for storing a remnant magnetic field in said magnetic element (col. 2, line 45-col. 3, line 25) (also with regard to claim 67).

With regard to claim 18, Lienau discloses wherein said magnetic element has two or more segments, wherein said segments are not co-linear and wherein each of said segment stores a magnetic field (col. 4, line 1-14) (also with regard to claim 25-32 and 68 and 69).

With regard to claim 19, Lienau discloses the cell further comprising a sensor having a sensing region and wherein magnetic flux fields produced by each of the

magnetic fields passes through said sensing region (col. 2, line 45-55) (also with regard to claim 20-24, 33-37 and 70-72).

With regard to claim 38, Lienau discloses wherein the magnetic element and the sensing region are substantially parallel (fig. 1) (also with regard to claim 73).

With regard to claim 39, Lienau discloses wherein each of said magnetic flux fields passes through a sensing region of the sensor (fig. 1); and the sensor is a Hall sensor (col. 2, line 45-50) (also with regard to claim 74).

With regard to claim 40, Lienau discloses wherein the sensor is made of a material that is compliant with a CMOS process (col. 4, line 57-col. 5, line 60) (also with regard to claim 42-46 and 75-81).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Lienau (6266267), Popovic et al (4607271), Matthews (5075247) and Johnson (5652445) disclose a nonvolatile memory device having magnetic characteristics .
7. When responding to the office action, Applicants' are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.
8. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (571) 272-1799. The examiner can normally be reached on Mon. - Fri. from 8:00 A.M. to 5:30 PM. The examiner's supervisor, David Nelms, can be reached at (571) 272-1787. The fax phone number for this Group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov> Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



C. Yoha

March 2004



Connie C. Yoha

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